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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,303	01/29/2007	Philip Head	23639	4172
535 7590 01/05/2009				
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EXAMINER				
ANDREWS, MICHAEL				
ART UNIT		PAPER NUMBER		
4176				
MAIL DATE		DELIVERY MODE		
01/05/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/580,303

**Applicant(s)**

HEAD, PHILIP

**Examiner**

MICHAEL ANDREWS

**Art Unit**

4176

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 May 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 23 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)  
3) ☐ Information Disclosure Statement(s) (PTO/CIS)  
4) ☐ Interview Summary (PTO-413)  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_  
Paper No(s)/Mail Date \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is responsive to the Applicant's communication filed May 23, 2006. In virtue of this communication, claims 1-6 are pending in the instant application.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawing Objections***

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Disclosure Objections***

3. The specification of the submitted disclosure is objected to because of the following informalities:

- Page 2, line 24; delete "which".

Appropriate correction is required.

***Claim Objections***

4. Claim 1 is objected to because of the following informalities:

- Line 11; replace "windings" with --windings--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsia (Patent No: US 5,394,043).

With regard to claim 1, Hsia discloses an electric motor [10], for powering downhole tools (Statements of intended use do not further limit the scope of the claim.), the motor comprising:

a stator [20] (see col. 2, lines 19-20); and

a rotor [30] (see col. 2, lines 28-30) connectable to a rotatable device [40] (see col. 2, lines 36-39);

a permanent magnet [60] (see col. 2, lines 53-59); and

a series of coiled windings [22] or laminations [24] (see col. 2, lines 24-26) having a connection to a DC supply (see col. 5, lines 5-9), the permanent magnet and the laminations being arranged annularly with respect to each other (see col. 2, lines 56-59); and

a potting material [116] impervious to wellbore fluids (see col. 1, lines 60-64; A material capable of withstanding autoclaving conditions would easily withstand common wellbore fluids.), the laminations and coil windings being potted in the material (see col. 3, lines 62-66).

With regard to claim 3, Hsia discloses an electric motor according to claim 1, as stated above, further comprising a motor housing [12] which confines the potting material (The figure shows the potting material [116] completely encapsulated by the motor housing [12].).

With regard to claim 4, Hsia discloses an electric motor according to claim 1, as stated above, further comprising:

wiring [100,106] that exits from the potted material through a metal clad tube [92] (see col. 3, lines 57-61), onto which an O ring seal can be used (Statements of intended use do not further limit the scope of the claim.).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsia.

With regard to claim 2, Hsia discloses an electric motor according to claim 1, as stated above. Hsia, however, does not explicitly teach that the potting material is introduced under a vacuum. However, this difference is not of patentable merit since the electric motor is a finished product which can be made by any process. Therefore, to employ a vacuum to form the potting material of the electric motor of Hsia would have been convincingly obvious to one of ordinary skill in the art.

With regard to claim 6, Hsia discloses an electric motor assembly according to claim 5, as stated above. Hsia, however does not explicitly teach that the motors are secured together before the potting material is introduced. However, this difference is not of patentable merit since the electric motor is a finished product which can be made by any process. Therefore, to assemble the motors before injecting the potting material to form the electric motor of Hsia would have been convincingly obvious to one of ordinary skill in the art.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsia in view of Owada et al. (Patent No: US 4,329,122), hereinafter referred to as "Owada".

With regard to claim 5, Hsia discloses an electric motor according to claim 1, as stated above. Hsia, however, does not disclose an electric motor assembly comprising two or more said motors secured in series.

Owada discloses an electric motor assembly used in submersible pumps that uses two or more electric motors arranged in series (see lines 1-2 of the abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the electric motor of Hsia by using two motors connected in series as taught by Owada, for powering submersible pumps, since Owada teaches that using multiple motors allows for testing of various parts of the apparatus (see col. 3, lines 36-41).

***Citation of Relevant Prior Art***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art:

- Puterbaugh et al. (Publication No: US 2006/0119197 A1) discloses an electric motor with a heat-conductive solid resin encapsulating the stator assembly, which is injected using a vacuum;
- Blase et al. (Publication No: US 2005/0212367 A1) discloses a direct current motor with sensors and circuitry encapsulated in an insulating and fuel resistant material within its housing;
- Lieu et al. (Publication No: US 2005/0134124 A1) discloses a motor including a shaft, rotor, stator, and an injection molded thermoplastic material encapsulating the stator windings;
- Bresolin (Patent No: US 5,767,606) discloses an electric motor with a laminated stator and windings embedded in a matrix of insulating resin; and

- Beavers et al. (Patent No: US 4,421,999) discloses a submersible pump with a motor with bellows or elastomeric barriers.

### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL ANDREWS whose telephone number is (571)270-7554. The examiner can normally be reached on Monday through Thursday between the hours of 8:30 and 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thuy V. Tran can be reached at (571)272-1828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL ANDREWS/  
Examiner, Art Unit 4176

/Kimberly D Nguyen/  
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